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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,300	11/30/2000	Alain Pomet	99RO21154217	4083

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EXAMINER	
MOORTHY, ARAVIND K	

ART UNIT	PAPER NUMBER
2131	6

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/727,300	Applicant(s) POMET ET AL.	
	Examiner Aravind K Moorthy	Art Unit 2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 12-49 are pending in the application.

2. Claims 12-49 have been rejected.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 12-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kowalski U.S. Patent No. 6,058,481.

As to claims 12, 25, 34 and 42, Kowalski discloses an electronic device comprising:

a central processing unit [column 1, lines 39-65];

at least one peripheral device [column 1, lines 39-65];

a data bus connected between the at least one peripheral device and the central processing unit through which data travels at a rate of a clock signal [column 1, lines 39-65];

and a transmission line connected between the at least one peripheral device and the central processing unit for providing a random signal thereto that is synchronous with the clock signal [column 2, lines 8-17];

the central processing unit and the at least one peripheral device each comprising a data encryption/decryption cell connected to the data bus and to the transmission line for generating a same current secret key at each clock cycle based upon the random signal [column 2, lines 18-27].

As to claims 13 and 43, Kowalski discloses that the at least one peripheral device comprises a memory [column 1, lines 39-65].

As to claim 14, Kowalski discloses that the same current secret key changes at each successive clock cycle [column 7, lines 1-12].

As to claims 15, 26, 35 and 44, Kowalski discloses that each data encryption/decryption cell comprises a shift register having an input for receiving the random signal and an input for receiving the clock signal, and an output for providing the same current secret key at each clock cycle [column 7, lines 35-54].

As to claim 16, Kowalski discloses that the shift register comprises a feedback type shift register [column 6, lines 2-22].

As to claims 18, 28, 37 and 46, Kowalski discloses that each data encryption/decryption cell comprises:

> an encryption module having an input for receiving the secret key and an input for receiving the data to be transmitted, and an output for providing encrypted data; and a decryption module having an input for receiving the secret key and an input for receiving the data, and an output for providing decrypted data [column 8, lines 33-51].

As to claims 19, 29, 38 and 47, Kowalski discloses that the data encryption/decryption cell of the central processing unit further comprises a conditional circuit for applying the secret key or a neutral key to the encryption and decryption modules based upon an encryption enabling signal [column 8, lines 33-51].

As to claims 21, 31 and 40, Kowalski discloses that the encryption module and the decryption module each operate based upon a same mathematical function [column 8, lines 52-62].

As to claims 22 and 32, Kowalski discloses that a random signal generator connected to the transmission line for generating the random signal that is synchronous with the clock signal. Kowalski suggests that the random signal generator further comprises a consumption masking circuit [column 6, lines 34-58].

As to claims 23, 33 and 41, Kowalski discloses that the random signal generator comprises a D-type flip-flop having an input for receiving a random binary signal and an input for receiving the clock signal and an output for providing the random signal. Kowalski discloses

that the consumption masking circuit is connected between the output of the D-type flip-flop circuit and the transmission line [column 8, lines 1-8].

As to claim 24, Kowalski discloses that a value of the same current secret key on the transmission line is set to zero by default by the central processing unit. Kowalski discloses that the random signal generator comprises a logic circuit to transmit the random signal on the transmission line after activation of a control signal by the central processing unit [column 6, lines 44-50].

As to claim 49, Kowalski discloses that the random signal is generated by a random signal generator connected to the transmission line [column 5 line 66 to column 6 line 7].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 17, 27, 36 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kowalski U.S. Patent No. 6,058,481 as applied to claims 12, 25, 34 and 42 above, and further in view of Finkelstein U.S. Patent No. 6,014,446.

As to claims 17, 27, 36 and 45, Kowalski does not teach that the shift register performs a polynomial function based upon n most recent values of the random signal.

Finkelstein teaches a shift register that performs a polynomial function based upon the most recent values of the random signal [column 4 line 60 to column 5 line 27].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kowalski so that the shift register would have performed a polynomial function based upon the most recent values of the random signal.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kowalski by the teaching of Finkelstein because by using complex polynomials, it makes the encryption functions less vulnerable to attacks [column 2, lines 17-30].

6. Claims 20, 30, 39 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kowalski U.S. Patent No. 6,058,481 as applied to claims 12, 25, 34 and 42 above, and further in view of Smyth et al U.S. Patent No. 6,058,481.

As to claims 20, 30, 39 and 48, Kowalski teaches a peripheral access control circuit connected to the central processing unit [column 5, lines 25-31].

Kowalski does not teach that the at least one peripheral device generates the encryption enabling signal based upon an address of the at least at least one peripheral device.

Smyth et al teaches a peripheral device that generates an encryption enabling signal based upon an address of the at least at least one peripheral device [column 3, lines 32-62].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kowalski so that a peripheral device would have generated a encryption enabling signal based upon an address of the at least at least one peripheral device.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kowalski by the teaching of Smyth et al because it

provides a high degree of security to prevent unauthorized access to files and ensures that a minimum level of encryption is needed [column 2, lines 13-22].

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K Moorthy whose telephone number is 703-305-1373. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy
June 3, 2004

AYAZ SHEIKH
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